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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: CROSS-SECTORAL ISSUES

Promoting sustainable human settlement development

(Section I, Chapter 6 of Agenda 21)

Text submitted by the Chairman on the basis of negotiations held on document A/CONF.151/PC/100/Add.7

I. INTRODUCTION

1. At its third session, the Preparatory Committee considered the report of the Secretary-General of the Conference on human settlements (A/CONF.151/PC/43).

2. In decision 3/3, the Preparatory Committee welcomed the report and decided that human settlements should be treated as a distinct programme of Agenda 21; that its programme areas should address human settlements as a substantive framework for sustainable development; that programme areas such as atmosphere, land, coastal areas, freshwater and waste management should include the human settlement dimension; and that the views expressed by Governments on the report be reflected in Agenda 21 (A/46/48, vol. II, annex I).

3. In industrialized countries, the consumption patterns of cities are severely stressing the global ecosystem while settlements in the developing world need more raw material, energy, and economic development simply to overcome basic economic and social problems. Human settlement conditions in many parts of the world, particularly the developing countries are deteriorating mainly as a result of the low levels of investments in the sector attributable to the overall resource constraints in these countries. In the low-income countries for which recent data are available, an average of only 5.6 per cent of central government expenditure went to housing, amenities, social security and welfare. 1/ Expenditure by international support and finance organizations is equally low. For example, only 1 per cent of the United Nations system's total grant-financed expenditures in 1988 went to human settlements 2/ while in 1991, loans from the World Bank and the International Development Association (IDA) for urban development and water supply and sewerage amounted to 5.5 and 5.4 per cent, respectively, of their total lending. 3/

4. On the other hand, available information indicates that technical cooperation activities in the human settlement sector generate considerable public and private sector investment. For example, every dollar of UNDP technical cooperation expenditure on human settlements in 1988 generated a follow-up investment of US$ 122, the highest of all UNDP sectors of assistance. 4/

5. This is the foundation of the "enabling approach" advocated for the human settlement sector. External assistance will help to generate the internal resources needed to improve the living and working environments of all people by the year 2000 and beyond, including the growing number of unemployed - the no-income group. At the same time the environmental implications of urban development should be recognized and addressed in an integrated fashion by all countries with high priority being given to the needs of the urban and rural poor, the unemployed and the growing number of people without any source of income.

Human settlement objective

6. The overall human settlement objective is to improve the social, economic and environmental quality of human settlements and the living and working environments of all people, in particular the urban and rural poor. Such improvement should be based on technical cooperation activities, partnerships among the public, private and community sectors and participation from community groups and special interest groups such as women, indigenous people, the elderly and the disabled. These approaches should form the core principles of national settlement strategies. In developing these strategies, countries will need to set priorities among the eight programme areas in this document in accordance with their national plans and objectives taking fully into account their social and cultural capabilities. Furthermore, countries should make appropriate provision to monitor the impact of their strategies on marginalized and disenfranchised groups with particular reference to the needs of women.

7. The programme areas included in this chapter are:

(a) Providing adequate shelter for all;

(b) Improving human settlement management;

(c) Promoting sustainable land use planning and management;

(d) Promoting the integrated provision of environmental infrastructure: water, sanitation, drainage, hazardous and solid waste management;

(e) Promoting sustainable energy and transport systems in human settlements;

(f) Promoting human settlement planning and management in disaster-prone areas;

(g) Promoting sustainable construction industry activities;

(h) Promoting human resource development and capacity-building for human settlement development.

II. PROGRAMME AREAS

A. Providing adequate shelter for all

1. Basis for action

8. Access to safe and healthy shelter is essential to a person's physical, psychological, social and economic well-being and should be a fundamental part to national and international action. The right to adequate housing as a basic human right is enshrined in the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights. Despite this, it is estimated that at the present time, at least 1 billion people do not have access to safe and healthy shelter and that if appropriate action is not taken, this number will increase dramatically by the end of the century and beyond.

9. A major global programme to address this problem is the Global Strategy for Shelter to the Year 2000, adopted by the General Assembly in December 1988 (resolution 43/181, annex). Despite its widespread endorsement, the Strategy needs a much greater level of political and financial support to enable it to reach its goal of facilitating adequate shelter for all by the end of the century and beyond.

2. Objective

10. The objective is to achieve adequate shelter for rapidly growing populations and for the currently deprived urban and rural poor through an enabling approach to shelter development and improvement which is environmentally sound.

3. Activities

11. The following activities should be undertaken:

(a) As a first towards the goal of "providing adequate shelter for all" all countries should take immediate measures to provide shelter to their homeless poor, while the international community and financial institutions should undertake actions to support the efforts of the developing countries to provide shelter to the poor;

(b) All countries should adopt and/or strengthen national shelter strategies with targets as appropriate based on the principles and recommendations contained in the Global Strategy for Shelter to the Year 2000. People should be protected by law against unfair eviction from their homes or land;

(c) All countries should, as appropriate, support the shelter efforts of the urban and rural poor, the unemployed and the no-income group by adopting and/or adapting existing codes and regulations, to facilitate their access to land, finance and low-cost building materials and by actively promoting the regularization and upgrading of informal settlements and urban slums as an expedient measure and pragmatic solution to the urban shelter deficit;

(d) All countries should, as appropriate, facilitate access of urban and rural poor to shelter by adopting and utilizing housing and finance schemes and new innovative mechanisms adapted to their circumstances;

(e) All countries should support and develop environmentally compatible shelter strategies at national, state/provincial, and municipal levels for through partnerships among the private, public, and community sectors and with the support of community-based organizations;

(f) All countries, especially developing ones, should, as appropriate, formulate and implement programmes to reduce the impact of the phenomenon of rural to urban drift by improving rural living conditions;

(g) All countries, where appropriate, should develop and implement resettlement programmes which address the specific problems of displaced populations in their respective countries;

(h) All countries should, as appropriate, document and monitor the implementation of their national shelter strategies by using, inter alia, the monitoring guidelines adopted by the Commission on Human Settlements and the shelter performance indicators being produced jointly by the United Nations Centre for Human Settlements (Habitat) and the World Bank;

(i) Bilateral and multilateral cooperation should be strengthened in order to support the implementation of the national shelter strategies of developing countries;

(j) Global progress reports covering national action as well as support activities of international organizations and bilateral donors should be produced and disseminated on a biennial basis as requested by the Global Shelter Strategy for the Year 2000.

4. Means of implementation

(a) Financing and cost evaluation

[12. The total requirements for obtaining adequate shelter conditions for the urban and rural poor by the year 2000 are about US$ 75 billion annually, to be financed primarily from household, community and national resources. About US$ 10 billion per year in external financing will be needed.]

[13. Annual support costs for strengthening international institutions in support of the Strategy's programme of action are estimated at US$ 10 million per year, a portion of which will be needed by the United Nations Centre for Human Settlements (Habitat), to support its role as the agency designated by the General Assembly as the secretariat for the Strategy.]

(b) Scientific and technological means

14. The requirements under this heading are addressed in each of the other programme areas included in the present chapter.

(c) Human resource development and capacity-building

[15. Developed countries and funding agencies should provide specific assistance to developing countries in adopting an enabling approach to the provision of shelter for all, including the no-income group, and covering research institutions and training activities for government officials, professionals, communities and non-governmental organizations and by strengthening local capacity for the development of appropriate technologies.]

B. Improving human settlement management

1. Basis for action

16. By the turn of the century, the majority of the world's population will be living in cities. While urban settlements, particularly in developing countries, are showing many of the symptoms of the global environment and development crisis, they nevertheless generate 60 per cent of gross national product and, if properly managed, can develop the capacity to sustain their productivity, improve the living conditions of their residents and manage natural resources in a sustainable way.

17. Some metropolitan areas extend over the boundaries of several political and/or administrative entities (counties and municipalities) even though they conform a continuous urban system. In many cases this political heterogeneity hinders the implementation of comprehensive environmental management programmes.

2. Objectives

18. The objectives are to ensure sustainable management of all urban settlements, particularly in developing countries, in order to enhance their ability to improve living conditions of residents, especially the marginalized and disenfranchised, thereby contributing to the achievement of national economic development goals.

3. Activities

(a) Improve urban management

19. One existing framework for strengthening management is in the United Nations Development Programme/World Bank/United Nations Centre for Human Settlements (Habitat) Urban Management Programme (UMP), a concerted global effort to assist developing countries in addressing urban management issues. Its coverage should be extended to all interested countries during the period 1993-2000. All countries should as appropriate, and in accordance with national plans, objectives and priorities and with the assistance of NGOs and representatives of local authorities, undertake the following activities at the national, state/provincial, and local levels with the assistance of relevant programmes and support agencies:

(a) Adopt and apply urban management guidelines in the areas of land management, urban environmental management, infrastructure management and municipal finance and administration;

(b) Accelerate efforts to reduce urban poverty through a number of actions, including:

(i) Generate employment for the urban poor, particularly women, through the provision, improvement and maintenance of urban infrastructure and services and the support of economic activities in the informal sector, such as repairs, recycling, services and small commerce;

(ii) Provide specific assistance to the poorest of the urban poor through, inter alia, the creation of social infrastructure in order to reduce hunger and homelessness, and the provision of adequate community services;

(iii) Encourage the organization of indigenous community-based organizations, private voluntary organizations, and other forms of non-governmental entities which can contribute efforts to reduce poverty and improve the quality of life for low-income families;

(c) Adopt innovative city planning strategies to address environmental and social issues by:

(i) Reducing subsidies on, and recovering full costs of, high standard environmental and other services (e.g. water supply, sanitation, waste collection, roads, telecommunications) provided to higher income neighborhoods;

(ii) Improving the level of infrastructure and service provision in poorer urban areas;

(d) Develop local strategies for the improvement of the quality of life and the environment, integrating decisions for land use and land management, investment in public and private sectors, as well as mobilize human and material resources, thereby promoting employment generation which is environmentally sound and protective of human health.

(b) Strengthen urban data systems

20. All countries should undertake during the period 1993-2000 with the active participation of the business sector as appropriate pilot projects in selected cities for the collection, analysis and subsequent dissemination of urban data including environmental impact analysis, at the local, state/provincial, national and international levels and the establishment of city data management capabilities. 5/ United Nations organizations such as Habitat, UNEP and UNDP could provide technical advice and model data management systems.

(c) Encourage intermediate city development

21. In order to relieve pressure on large urban agglomerations of developing countries, policies and strategies should be implemented towards the development of intermediate cities which create employment opportunities for unemployed labour in the rural areas and support rural-based economic activities, although sound urban management is essential to ensure that "urban sprawl" does not expand resource degradation over an ever wider land area and

increase pressures to convert open space and agricultural/buffer lands for development.

22. For this purpose, all countries should, as appropriate, conduct reviews of urbanization processes and policies in order to assess environmental impacts of growth and apply urban planning and management approaches specifically suited to the needs, resource capabilities and characteristics of their growing intermediate-sized cities. As appropriate, they should also concentrate on activities aimed at facilitating the transition from rural to urban lifestyles and settlement patterns and at promoting the development of small-scale economic activities, particularly the production of food, to support local income generation and the production of intermediate goods and services for rural hinterlands.

23. All cities, particularly those characterized by severe sustainable development problems, should in accordance with national laws, rules and regulations develop and strengthen programmes aimed at addressing such problems and guiding their development along a sustainable path. Some international initiatives in support of such efforts as in the Sustainable Cities Programme of the United Nations Centre for Human Settlements (Habitat) and the Healthy Cities Programme of the World Health Organization (WHO) should be intensified. Additional initiatives involving the World Bank, the regional development banks and bilateral agencies as well as other interested stakeholders, particularly international and national representatives of local authorities should be strengthened and coordinated. Individual cities should, as appropriate:

(a) Institutionalize a participatory approach to sustainable urban development, based on a continuous dialogue between the actors involved in urban development (public sector, private sector and communities), especially women and indigenous people;

(b) Improve the urban environment by promoting social organization and environmental awareness through the participation of local communities in the identification of public services needs, the provision of urban infrastructure, the enhancement of public amenities and the protection and/or rehabilitation of older buildings, historic precincts and other cultural artifacts. In addition, "green works" programmes should be activated to create self-sustaining human development activities and both formal and informal employment opportunities for low-income urban residents;

(c) Strengthen the capacities of their local governing bodies to deal more effectively with the broad range of developmental and environmental challenges associated with rapid and sound urban growth through comprehensive approaches to planning which recognize the individual needs of cities and which are based on ecologically sound urban design practices;

(d) Participate in international "sustainable city networks" to exchange experiences and mobilize national and international technical and financial support;

(e) Promote the formu ation of environmentally sound and culturally sensitive tourism programmes as a strategy of sustainable development of urban and rural settlements and as a way of decentralizing urban development, and of reducing discrepancies among regions;

(f) Establish mechanisms with the assistance of relevant international agencies to mobilize resources for local initiatives for improvements in environmental quality;

(g) Empower community groups, non-governmental organizations and individuals to assume the authority and responsibility for managing and enhancing their immediate environment through participatory tools, techniques and approaches embodied in the concept of environmental care.

24. Cities of all countries should reinforce cooperation among themselves and cities of the developed countries, under the aegis of non-governmental organizations active in this field, such as the International Union of Local Authorities (IULA), the International Council for Local Environmental Initiatives (ICLEI) and the World Federation of Twin Cities.

4. Means of implementation

(a) Financing and cost evaluation

[25. Total annual requirements, primarily for infrastructure maintenance and operations for municipal services in developing countries are roughly estimated at US$ 100 billion, to be financed mostly by revenues. The total external financial and technical assistance required is estimated at about US$ 15 billion per year. About US$ 10 million would be needed for strengthening international institutions.]

(b) Human resource development and capacity-building

26. Developing countries should, with appropriate international assistance, consider focusing on training and developing a cadre of urban managers, technicians, administrators and other relevant stakeholders needed to successfully manage environmentally sound urban development and growth and equipped with the skills necessary to analyse and adapt innovative experiences of other cities. For this purpose, the full range of training methods - from formal education to the use of the mass media - should be utilized, as well as the "learning by doing" option.

27. Developing countries should also encourage technological training and research through joint efforts by donors, non-governmental organizations and private business in such areas as the reduction of waste, water quality, saving of energy, safe production of chemicals and less polluting transportation.

28. Capacity-building activities carried out by all countries, assisted as suggested above, should go beyond the training of individuals and functional groups to include institutional arrangements, administrative routines, inter-agency linkages, information flows and consultative processes.

29. In addition, international efforts such as the Urban Management Programme, in cooperation with multilateral and bilateral agencies, should continue to assist the developing countries in their efforts to develop a participatory structure by mobilizing the human resources of the private sector, non-governmental organizations and the poor, particularly women and the disadvantaged.

C. Promoting sustainable land use planning and management

1. Basis for action

30. Access to land resources is an essential component of sustainable low impact lifestyles. Land resources are the basis for (human) living systems and provide soil, energy, water and the opportunity for all human activity. In rapidly growing urban areas, access to land is rendered increasingly difficult by the conflicting demands of industry, housing, commerce, agriculture, land tenure structures and the need for open spaces. Furthermore, the rising costs of urban land prevent the poor from gaining access to suitable land. In rural areas, unsustainable practices, such as the exploitation of marginal lands and the encroachment on forests and ecologically fragile areas by commercial interests and landless rural populations, result in environmental degradation as well as in diminishing returns for impoverished rural settlers.

2. Objective

31. The objective is to provide for the land requirements of human settlement development through environmentally sound physical planning and land use so as to ensure access to land to all households.

3. Activities

32. All countries should consider, as appropriate, undertaking a comprehensive national inventory of their land resources in order to establish a land information system in which land resources will be classified according to their most appropriate uses and environmentally fragile or disaster-prone areas will be identified for special protection measures.

33. Subsequently, all countries should consider developing national land-resource management plans to guide land-resource development and utilization as follows:

(a) Establish, as appropriate, national legislation to guide the implementation of public policies for environmentally sound urban development, land utilization, housing and for the improved management of urban expansion;

(b) Create, where appropriate, efficient and accessible land markets which meet community development needs by, inter alia, improving land registry systems and streamlining procedures in land transactions;

(c) Develop fiscal incentives and land-use control measures, including land-use planning solutions for a more rational and environmentally sound use of limited land resources;

(d) Encourage partnerships among the public, private and community sectors in managing land resources for human settlements development;

(e) Strengthen community-based land-resource protection practices in existing urban and rural settlements;

(f) Establish appropriate forms of land tenure which provide security of tenure for all land-users, especially indigenous people, women, local communities, the low-income urban dwellers and the rural poor;

(g) Accelerate efforts to promote access to land by the urban and rural poor, including credit schemes for the purchase of land and for building/acquiring or improving safe and healthy shelter and infrastructure services;

(h) Develop and support the implementation of improved land management practices which deal comprehensively with potentially competing land requirements for agriculture, industry, transport, urban development, green spaces, preserves and other vital needs;

(i) Promote understanding among the policy makers of the adverse consequences of unplanned settlements in environmentally vulnerable areas and of the appropriate national and local land use and settlements policies required for this purpose.

34. At the international level, global coordination of land resource management activities should be strengthened by the various bilateral and multilateral agencies and programmes such as UNDP, FAO, the World Bank, the regional development banks, other interested organizations and the UNDP/World Bank/United Nations Centre for Human Settlements (Habitat) Urban Management Programme, and action taken to promote the transfer of applicable experience on sustainable land-management practices to and among developing countries.

4. Means of implementation

(a) Financing and cost evaluation

[35. The overall cost is about US$ 3 billion annually, including about US$ 300 million from the international community. About US$ 4 million will be needed for strengthening international organizations. Some aspects of this programme may be funded under the land use programmes detailed in other Agenda 21 chapters. These programmes should be funded in an integrated fashion.]

(b) Scientific and technological means

36. All countries, particularly developing countries, alone or in regional or subregional groupings, should be given access to modern techniques of land-resource management, such as geographical information systems, satellite photography/imagery and other remote-sensing technologies.

(c) Human resource development and capacity-building

37. Environmentally focused training activities in sustainable land resources planning and management should be undertaken in all countries with developing countries being given assistance through international support and funding agencies in order to:

(a) Strengthen the capacity of national, state/provincial, and local educational research and training institutions to provide formal training of land management technicians and professionals;

(b) Facilitate the organizational review of government ministries and agencies responsible for land questions, in order to devise more efficient mechanisms of land-resource management, and carry out periodic in-service refresher courses for their managers and staff in order to familiarize them with up-to-date land-resource management technologies;

(c) Where appropriate, equip those agencies with modern equipment, such as computer hardware and software and survey equipment;

(d) Strengthen existing programmes and promote an international and interregional exchange of information and experience in land management through the establishment of professional associations in land management sciences and related activities, such as workshops and seminars.

D. Promoting the integrated provision of environmental infrastructure: water, sanitation, drainage and solid waste management

1. Basis for action

38. The sustainability of urban development is defined by many parameters relating to the availability of water supplies, air quality and the provision of environmental infrastructure for sanitation and waste management. As a result of the density of users, urbanization, if properly managed, offers unique opportunities for the supply of sustainable environmental infrastructure through adequate pricing policies, educational programmes and equitable access mechanisms which are economically and environmentally sound. In most developing countries, however, the inadequacy and lack of environmental infrastructure is responsible for widespread ill-health, and a large number of preventable deaths each year. In those countries conditions are set to worsen due to growing needs beyond governments' capability to respond adequately.

39. An integrated approach to the provision of environmentally sound infrastructure in human settlements, in particular for the urban and rural poor, is an investment in sustainable development which can result in improvement to the quality of life, increase productivity, improve health and reduce the burden of investments in curative medicine and poverty alleviation.

40. Most of the activities whose management would be improved by an integrated approach, are covered in Agenda 21 as follows: section I, chapter 5 (Protection and promotion of human health conditions) and section II, chapters 1 (Protecting the atmosphere), 10 (Protection of the quality and supply of freshwater resources) and 13 (Environmentally sound management of solid wastes and sewage-related issues).

2. Objective

41. The objective is to ensure the provision of adequate environmental infrastructure facilities in all settlements by the year 2025. The achievement of this objective would require that all developing countries incorporate in their national strategies programmes to build the necessary technical, financial and human resource capacity aimed at ensuring better integration of infrastructure and environmental planning by the year 2000.

3. Activities

42. All countries should assess the environmental suitability of infrastructure in human settlements, develop national goals for sustainable management of waste, and implement environmentally sound technology to ensure that the environment, human health and quality of life are protected. Settlement infrastructure and environmental programmes designed to promote an

integrated human settlements approach to the planning, development, maintenance and management of environmental infrastructure (water supply, sanitation, drainage, solid waste management) should be strengthened with the assistance of bilateral and multilateral agencies. Coordination among these agencies and with collaboration from international and national representatives of local authorities, the private sector, and community groups should also be strengthened. The activities of all agencies engaged in providing environmental infrastructure should, where possible, reflect an ecosystem or metropolitan area approach to settlements and should include monitoring, applied research, capacity-building, transfer of appropriate technology and technical cooperation among the range of programme activities.

43. Developing countries should be assisted at the national and local levels in adopting an integrated approach to the provision of water supply, energy, sanitation, drainage and solid waste management and external funding agencies should ensure that this approach is applied in particular to environmental infrastructure improvement in informal settlements based on regulations and standards that take into account the living conditions and resources of the communities to be served.

44. All countries should, as appropriate, adopt the following principles for the provision of environmental infrastructure:

(a) Adopt policies that minimize if not altogether avoid environmental damage, whenever possible;

(b) Ensure that all decisions are preceded by environmental impact assessments and also take into account the costs of any ecological consequences;

(c) Promote development in accordance with indigenous practices and adopt technologies appropriate to local conditions;

(d) Promote policies aimed at recovering the actual cost of infrastructure services, while at the same time recognizing the need to find suitable approaches (including subsidies) to extend basic services to all households;

(e) Seek joint solutions to environmental problems which affect several localities.

45. The dissemination of information from existing programmes should be facilitated and encouraged among interested countries and local institutions.

4. Means of implementation

(a) Financing and cost evaluation

[46. Financial requirements for major development programmes are estimated in other chapters, especially those dealing with health, energy, freshwater resources, sanitation and solid wastes. Annual technical assistance requirements for the settlement infrastructure environmental programmes are estimated at about US$ 50 million; US$ 3 million will be needed to strengthen international institutions.]

(b) Scientific and technological means

47. Scientific and technological means within the existing programmes should be coordinated wherever possible and should:

(a) Accelerate research in the area of integrated policies of environmental infrastructure programmes and projects based on cost-benefit analysis and overall environmental impact;

(b) Promote methods of assessing "effective demand", utilizing environmental and developmental data as criteria for technology choice.

(c) Human resource development and capacity-building

48. With the assistance and support of funding agencies, all countries should, as appropriate, undertake training and popular participation programmes aimed at:

(a) Raising awareness of the means, approaches and benefits of the provision of environmental infrastructure facilities, especially among indigenous people, women, low-income groups and the poor;

(b) Developing a cadre of professionals with adequate skills in integrated infrastructural service planning and maintenance of resource efficient, environmentally sound and socially acceptable systems;

(c) Strengthening the institutional capacity of local authorities and administrators in the integrated provision of adequate infrastructure services in partnership with local communities and the private sector;

(d) Adopting appropriate legal and regulatory instruments, including cross-subsidy arrangements, to extend the benefits of adequate and affordable environmental infrastructure to unserved population groups, especially the poor.

E. Promoting sustainable energy and transport systems in human settlements

1. Basis for action

49. Most of the commercial and non-commercial energy produced today is used in, and for, human settlements and a substantial percentage of it is used by the household sector. Developing countries are presently faced with the need to increase their energy production to accelerate development and raise the living standards of their populations, while at the same time reducing energy production costs and energy-related pollution. Increasing the efficiency of energy use to reduce its polluting effects and to promote the use of renewable energies must be a priority in any action taken to protect the urban environment.

50. Developed countries, as the largest consumers of energy, are faced with the need for energy planning and management, promoting renewable and alternate sources of energy, and evaluating the life-cycle costs of current systems and practices as a result of which many metropolitan areas are suffering from pervasive air quality problems related to ozone, particulate matters and carbon monoxide. The causes have much to do with technological inadequacies and with an increasing fuel consumption generated by inefficiencies, high demographic and industrial concentrations and a rapid expansion in the number of motor vehicles.

51. Transport accounts for about 30 per cent of commercial energy consumption and for about 60 per cent of total global consumption of liquid petroleum. In developing countries, rapid motorization and insufficient investments in urban transport planning, traffic management and infrastructure, are creating increasing problems in terms of accidents and injury, health, noise, congestion and loss of productivity similar to those occurring in many developed countries. All of these problems have a severe impact on urban populations, particularly the low-income and no-income groups.

2. Objectives

52. The objectives are to extend the provision of more energy-efficient technology and alternative/renewable energy for human settlements and to reduce negative impacts of energy production and use on human health and on the environment.

3. Activities

53. The principal activities relevant to this programme area are included in Agenda 21 as follows: section II, chapter 1 (Protecting the atmosphere), programme area A (Promoting sustainable energy development) and programme area B (Promoting transport systems which are specifically safe and environmentally sound).

54. A comprehensive approach to human settlements development should include the promotion of sustainable energy development in all countries, as follows:

(a) Developing countries, in particular, should:

(i) Formulate national action programmes to promote and support reafforestation and national forest regeneration with a view to achieve sustained provision of the biomass energy needs of the low-income groups in urban areas and the rural poor, in particular women and children;

(ii) Formulate national action programmes to promote integrated development of energy saving and renewable energy technologies particularly for the use of solar, hydro, wind and biomass sources;

(iii) Promote wide dissemination and commercialization of renewable energy technologies through suitable measures, inter alia, fiscal and technology transfer mechanisms;

(iv) Carry out information and training programmes directed at manufacturers and users in order to promote energy saving techniques and energy efficient appliances;

(b) International organizations should:

(i) Support developing countries in implementing national energy programmes in order to achieve widespread use of energy saving and renewable energy technologies, particularly the use of solar, wind, biomass and hydro sources;

(ii) Provide access to research and development results to increase energy use efficiency levels in human settlements.

55. Promoting efficient and environmentally sound urban transport systems in all countries should be a comprehensive approach to urban transport planning and management. For this all countries should:

(a) Integrate land-use and transportation planning to encourage development patterns which reduce transport demand;

(b) Adopt urban transport programmes favouring high-occupancy public transport in countries as appropriate;

(c) Encourage non-motorized modes of transport by providing safe cycleways and footways in urban and suburban centres in countries as appropriate;

(d) Devote particular attention to effective traffic management, to efficient operation of public transport and to maintenance of transport infrastructure;

(e) Promote the exchange of information among countries and representatives of local and metropolitan areas;

(f) Re-evaluate the present consumption and production patterns in order to reduce energy and national resources use.

4. Means of implementation

(a) Financing and cost evaluation

[56. The financing for this programme area is included in the estimate for part II, chapter 1 of Agenda 21 (Protecting the atmosphere).]

(b) Human resource development and capacity-building

57. In order to enhance the skills of energy service and transport professionals and institutions, all countries should, as appropriate:

(a) Provide on-the-job and other training of government officials, planners, traffic engineers, and managers involved in the energy service and transport section;

(b) Raise public awareness about the environmental impacts of transport and travel behaviour through mass media campaigns and support for non-governmental and community initiatives promoting the use of non-motorized transport, shared driving and improved traffic safety measures;

(c) Strengthen regional, national, state/provincial, and private sector institutions that provide education and training on energy service and urban transport planning and management.

F. Promoting human settlement planning and management in disaster-prone areas

1. Basis for action

58. Natural disasters cause loss of life, disruption of economic activities and urban productivity - particularly for highly susceptible low-income groups, and environmental damage, such as loss of fertile agricultural land and contamination of water resources, and can lead to major resettlement of populations. Over the past two decades they are estimated to have caused some 3 million deaths and affected 800 million people. Global economic losses have been estimated by the Office of the United Nations Disaster Relief Coordinator to be in the range of US$ 30-50 billion per year. 7/

59. The General Assembly, in resolution 44/236, proclaimed the 1990s as the International Decade for Natural Disaster Reduction. The goals of the Decade 8/ bear relevance to the objectives of the present programme area.

60. In addition, there is an urgent need to address the prevention and reduction of man-made disasters and/or disasters caused by, inter alia, industries, unsafe nuclear power generation and toxic wastes (see section I, chapter 5 of Agenda 21 - Protection and promotion of human health).

2. Objective

61. The objective is to enable all countries, in particular those that are disaster-prone, to mitigate the negative impact of natural and man-made disasters on human settlements, national economies and the environment.

3. Activities

62. Three distinct areas of activity are foreseen under this programme area, namely the development of a "culture of safety", pre-disaster planning and post-disaster reconstruction.

(a) Develop a culture of safety

63. To promote a "culture of safety" in all countries, especially those that are disaster-prone, the following activities should be carried out:

(a) Complete national and local studies on the nature and occurrence of natural disasters, their impact on people and economic activities, the effects of inadequate construction and land use in hazard-prone areas, and the social and economic advantages of adequate pre-disaster planning;

(b) Implement nationwide and local awareness campaigns through all available media, translating the above knowledge into information easily comprehensible to the general public and to the populations directly exposed to hazards;

(c) Strengthen, and/or develop global, regional, national and local early warning systems to alert populations to impending disasters;

(d) Identify industrially based environmental disaster areas at the national and international levels and implement strategies aimed at the rehabilitation of these areas through, inter alia:

(i) Restructuring of the economic activities and promoting new job opportunities in environmentally sound sectors;

(ii) Promoting close collaboration between governmental and local authorities, local communities and non-governmental organizations and private business;

(iii) Developing and enforcing strict environmental control standards.

(b) Develop pre-disaster planning

64. Pre-disaster planning should form an integral part of human settlement planning in all countries. The following should be included:

(a) Complete multi-hazard research into risk and vulnerability of human settlements and settlement infrastructure, including water and sewerage, communication and transportation networks, as one type of risk reduction may increase vulnerability to another (e.g., an earthquake resistant house made of wood will be more vulnerable to wind storms);

(b) Develop methodologies for determining risk and vulnerability within specific human settlements and incorporate risk and vulnerability reduction into the human settlement planning and management process;

(c) Redirect inappropriate new development and human settlements to areas not prone to hazards;

(d) Prepare guidelines on location, design and operation of potentially hazardous industries and activities;

(e) Develop tools (legal, economic etc.) to encourage disaster-sensitive development, including means of ensuring that limitations on development options are not punitive to owners, or incorporate alternative means of compensation;

(f) Further develop and disseminate information on disaster-resistant building materials and construction technologies for buildings and public works in general;

(g) Develop training programmes for contractors and builders on disaster-resistant construction methods. Some programmes should be directed particularly to small enterprises, which build the great majority of housing and other small buildings in the developing countries as well as for the rural populations which build their own houses;

(h) Develop training programmes for emergency site managers, non-governmental organizations and community groups which cover all aspects of disaster mitigation, including urban search and rescue, emergency communications, early warning techniques, and pre-disaster planning;

(i) Develop procedures and practices to enable local communities to receive information about hazardous installations or situations in these areas, and facilitate their participation in early warning and disaster abatement and response procedures and plans;

(j) Prepare action plans for the reconstruction of settlements, especially the reconstruction of community life-lines.

(c) Initiate post-disaster reconstruction and rehabilitation planning

65. The international community as a major partner in post-reconstruction and rehabilitation should ensure that the countries involved derive the greatest benefits from the funds allocated by undertaking the following activities:

(a) Carry out research on past experiences on the social and economic aspects of post-disaster reconstruction and adopt effective strategies and guidelines for post-disaster reconstruction with particular focus on development focused strategies in the allocation of scarce reconstruction resources, and on the opportunities which post-disaster reconstruction provides to introduce sustainable settlement patterns;

(b) Prepare and disseminate international guidelines for adaptation to national and local needs;

(c) Support efforts of national governments to initiate contingency planning, with participation of affected communities, for post-disaster reconstruction and rehabilitation.

4. Means of implementation

(a) Financing and cost evaluation

[66. External assistance will continue to be required for post-disaster investments, which are roughly estimated to run at about US$ 600 million annually. Technical assistance connected with this programme area could cost about US$ 50 million annually; US$ 2 million is suggested for strengthening international organizations.]

(b) Scientific and technological means

67. Scientists and engineers specializing in this field in both developing and developed countries should collaborate with urban and regional planners in order to provide the basic knowledge and means to mitigate losses due to disasters as well as environmentally inappropriate development.

(c) Human resource development and capacity-building

68. Developing countries should conduct training programmes on disaster-resistant construction methods for contractors and builders, who build the majority of housing in the developing countries. This should focus on the small business enterprises, which build the majority of housing in the developing countries.

69. Training programmes should be extended to government officials and planners and community and non-governmental organizations to cover all aspects of disaster mitigation, such as early warning techniques, pre-disaster planning and construction, post-disaster construction and rehabilitation.

G. Promoting sustainable construction industry activities

1. Basis for action

70. The activities of the construction sector are vital to the achievement of the national socio-economic development goals of providing shelter, infrastructure and employment. However, they can be a major source of environmental damage through depletion of the natural resource base, degradation of fragile eco-zones, chemical pollution and the use of building materials harmful to human health.

2. Objectives

71. The objectives are first, to adopt policies and technologies and to exchange information on them in order to enable the construction sector to meet human settlement development goals while avoiding harmful side-effects on human health and on the biosphere and, second, to enhance the employment-generation capacity of the construction sector. Governments should work in close collaboration with the private sector in achieving these objectives.

3. Activities

72. All countries should, as appropriate and in accordance with national plans, objectives and priorities:

(a) Establish and strengthen indigenous building materials industry, based as much as possible, on inputs of locally available natural resources;

(b) Formulate programmes to enhance the utilization of local materials by the construction sector by expanding technical support and incentive schemes for, increasing the capabilities and economic viability of small-scale and informal operatives who make use of these materials and traditional construction techniques;

(c) Adopt standards and other regulatory measures which promote the increased use of energy-efficient designs and technologies and sustainable utilization of natural resources in an economically and environmentally appropriate way;

(d) Formulate appropriate land-use policies and introduce planning regulations specially aimed at protection of eco-sensitive zones against physical disruption by construction and construction-related activities;

(e) Promote the use of labour-intensive construction and maintenance technologies which generate employment in the construction sector for the underemployed labour force found in most large cities while at the same time promoting the development of skills in the construction sector;

(f) Develop policies and practices to reach informal sector and self-help housing builders by adopting measures to increase the affordability of building materials on the part of the urban and rural poor, through, inter alia, credit schemes and bulk procurement of building materials for sale to small-scale builders and communities.

73. All countries should:

(a) Promote the free exchange of information on the whole range of environmental and health aspects of construction including the development and dissemination of databases on the adverse environmental effects of building materials through the collaborative efforts of the private and public sectors;

(b) Promote the development and dissemination of databases on the adverse environmental and health effects of building materials and introduce legislation and financial incentives to promote recycling of energy-intensive materials in the construction industry and conservation of waste energy in building-materials production methods;

(c) Promote the use of economic instruments, such as product charges, to discourage the use of construction materials and products which create pollution during their life-cycle;

(d) Promote information exchange and appropriate technology transfer among all countries, with particular attention to developing countries, for resource management in construction, particularly for non-renewable resources;

(e) Promote research in construction industries and related activities, and establish and strengthen institutions in this sector.

4. Means of implementation

(a) Financing and cost evaluation

[74. It is roughly estimated that the construction activities of developing countries amount to about US$ 400 billion annually and will increase by about US$ 20 billion annually. The stream of new investments for these levels of activity and to bring in clean technologies is estimated at US$ 40 billion annually, primarily from private sources. If 10 per cent of the new investments come from the international community, this would amount to US$ 4 billion annually. About US$ 3 million would be needed to strengthen international organizations.]

(b) Human resource development and capacity-building

75. Developing countries should be assisted by international support and funding agencies in upgrading the technical and managerial capacities of the small entrepreneur and the vocational skills of operatives and supervisors in

the building materials industry, using a variety of training methods. These countries should also be assisted in developing programmes to encourage the use of non-waste and clean technologies through appropriate transfer of technology.

76. General education programmes should be developed in all countries, as appropriate, to increase builder awareness of available sustainable technologies.

77. Local authorities are called upon to play a pioneering role in promoting the increased use of environmentally sound building materials and construction technologies, e.g., by pursuing an innovative procurement policy.

H. Promoting human resource development and capacity-building for human settlements development

1. Basis for action

78. Most countries, in addition to shortcomings in the availability of specialized expertise in the areas of housing, settlement management, land management, infrastructure, construction, energy, transport, and pre-disaster planning and reconstruction, face three cross-sectoral human resource development and capacity-building shortfalls. First is the absence of an enabling policy environment capable of integrating the resources and activities of the public sector, the private sector and the community, or social sector; second is the weakness of specialized training and research institutions; and third is the insufficient capacity for technical training and assistance for low-income communities, both urban and rural.

2. Objective

79. The objective is to improve human resource development and capacity-building in all countries by enhancing the personal and institutional capacity of all actors, particularly indigenous people and women, involved in human settlement development. In this regard, account should be taken of traditional cultural practices of indigenous people and their relationship to the environment.

3. Activities

80. Specific human resource development and capacity-building activities have been built into each of the programme areas of this chapter. More generally, however, additional steps should be taken to reinforce those activities. In order to do so, all countries, as appropriate should take the following action:

(a) Strengthen the development of the human resources and of capacities of public sector institutions through technical assistance and international cooperation so as to achieve by the year 2000 substantial improvement in the efficiency of governmental activities;

(b) Create an enabling policy environment supportive of the partnership between the public, private and community sectors;

(c) Provide enhanced training and technical assistance to institutions providing training for technicians, professionals and administrators, and appointed, elected, and professional members of local governments and strengthen their capacity to address priority training needs, particularly in regard to social, economic and environmental aspects of human settlements development;

(d) Provide direct assistance for human settlement development at the community level, inter alia, by:

(i) Strengthening and promoting programmes for social mobilization and awareness raising of the potential of women and youth in human settlements activities;

(ii) Facilitating coordination of the activities of women, youth, community groups, and non-governmental organizations in human settlements development;

(iii) Promoting research on women's programmes and other groups, and evaluate progress made with a view to identifying bottlenecks and needed assistance;

(e) Promote the inclusion of integrated environmental management into general local government activities.

81. Both international organizations and non-governmental organizations should support the above activities by, inter alia, strengthening subregional training institutions, providing updated training materials and disseminating the results of successful human resource and capacity-building activities, programmes and projects.

4. Means of implementation

(a) Financing and cost evaluation

[82. International technical assistance to support national programmes is estimated at about US$ 60 million annually; US$ 5 million will be needed for strengthening international institutions.]

(b) Scientific and technological means

83. Both formal training and non-formal types of human resource development and capacity-building programmes should be combined, and use should be made of user-oriented training methods, up-to-date training materials and modern audio-visual communication systems.

Notes

1/ No aggregate figures are available on internal expenditure or official development assistance on human settlements. However, data available in the World Development Report, 1991, for 16 low-income developing countries show that the percentage of central government expenditure on housing, amenities, and social security and welfare for 1989 averaged 5.6 per cent, with a high of 15.1 per cent in the case of Sri Lanka, which has embarked on a vigorous housing programme. In OECD industrialized countries, during the same year, the percentage of central government expenditure on housing, amenities and social security and welfare ranged from a minimum of 29.3 per cent to a maximum of 49.4 per cent, with an average of 39 per cent (World Bank, World Development Report, 1991, World Development Indicators, table 11 (Washington, D.C., 1991), forthcoming.

2/ See the report of the Director-General for Development and International Economic Cooperation, containing preliminary statistical data on operational activities of the United Nations system for 1988 (A/44/324-E/1989/106/Add.4, annex).

3/ World Bank Annual Report, 1991 (Washington, D.C., 1991).

4/ UNDP, "Reported investment commitments related to UNDP-assisted projects, 1988", table 1, "Sectoral distribution of investment commitment in 1988-1989".

5/ A pilot programme of this type, the City Data Programme (CDP), is already in operation in the United Nations Centre on Human Settlements (Habitat) aimed at the production and dissemination to participating cities of micro-computer application software designed to store, process and retrieve city data for local, national and international exchange and dissemination.

6/ This calls for integrated land-resource management policies, which are also addressed in section II, chapter 2 of Agenda 21 (Integrated approach to planning and management of land resources).

7/ Estimates of the Office of the United Nations Disaster Relief Coordinator.

Notes (continued)

8/ The goals of the International Decade for Natural Disaster Reduction, set out in the annex to General Assembly resolution 44/236 are as follows:

(a) To improve the capacity of each country to mitigate the effects of natural disasters expeditiously and effectively, paying special attention to assisting developing countries in the assessment of disaster damage potential and in the establishment of early warning systems and disaster-resistant structures when and where needed;

(b) To devise appropriate guidelines and strategies for applying existing scientific and technical knowledge, taking into account the cultural and economic diversity among nations;

(c) To foster scientific and engineering endeavours aimed at closing critical gaps in knowledge in order to reduce loss of life and property;

(d) To disseminate existing and new technical information related to measures for the assessment, prediction and mitigation of natural disasters;

(e) To develop measures for the assessment, prediction, prevention and mitigation of natural disasters through programmes of technical assistance and technology transfer, demonstration projects, and education and training, tailored to specific disasters and locations, and to evaluate the effectiveness of those programmes.

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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: CROSS-SECTORAL ISSUES

Combating poverty, changing consumption patterns, and demographic dynamics and sustainability

(Section I, chapters 2, 3 and 4 of Agenda 21)

Text submitted by the Chairman on the basis of negotiations held on document A/CONF.151/PC/100/Add.2

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COMBATING POVERTY

(Sect. I, chap. 2)

PROGRAMME AREA

Enabling the poor to achieve sustainable livelihoods

Basis for action

1. Poverty is a complex multidimensional problem with origins in both the national and international domains. No uniform solution can be found for global application. Rather, country-specific programmes to tackle poverty and international efforts supporting national efforts as well as the parallel process of creating a supportive international environment are crucial for a solution to this problem. The eradication of poverty and hunger, greater equity in income distribution and human resources development remain major challenges everywhere. The struggle against poverty is the shared responsibility of all countries.

2. While managing resources sustainably, an environmental policy that focuses mainly on the conservation and protection of resources must take due account of those who depend on the resources for their livelihoods. Otherwise it could have an adverse impact both on poverty and chances for long-term success in resource and environmental conservation. Equally, a development policy that focuses mainly on increasing the production of goods without addressing the sustainability of the resources on which production is based will sooner or later run into declining productivity, which could also have an adverse impact on poverty. A specific anti-poverty strategy is therefore one of the basic conditions for ensuring sustainable development. An effective strategy for tackling problems of poverty, development and environment simultaneously should begin by focusing on resources, production and people, and should cover demographic issues, enhanced health care and education, the rights of women, the role of youth and of indigenous people and local communities and a democratic participation process in association with improved governance.

3. Integral to such action is, together with international support, the promotion of economic growth in developing countries which is both sustained and sustainable and direct action in eradicating poverty by strengthening employment and income-generating programmes.

Objectives

4. The long-term objective of enabling all people to achieve sustainable livelihoods should provide an integrating factor which allows policies to address issues of development, sustainable resource management, and poverty eradication simultaneously. The objectives of this programme area are:

(a) To provide all persons urgently with the opportunity to earn a sustainable livelihood;

(b) To implement policies and strategies which promote adequate levels of funding and focus on integrated human development policies, including income generation, increased local control of resources, local institution-strengthening and capacity-building and greater involvement of non-governmental organizations and local levels of government as delivery mechanisms;

(c) To develop for all poverty-stricken areas integrated strategies and programmes of sound and sustainable management of the environment, resource mobilization, poverty eradication and alleviation, employment and income generation;

(d) To create a focus in national development plans and budgets on investment in human capital, with special policies and programmes directed at rural areas, the urban poor, women and children.

Activities

5. Activities that will contribute to the integrated promotion of sustainable livelihoods and environmental protection cover a variety of sectoral interventions involving a range of actors, from local to global, and are essential at every level, especially the community and local levels. Enabling actions will be necessary at the national and international levels, taking full account of regional and subregional conditions to support a locally driven and country-specific approach. In general design, the programmes should:

(a) Focus on the empowerment of local and community groups through the principle of delegating authority, accountability and resources to the most appropriate level to ensure that the programme will be geographically and ecologically specific;

(b) Contain immediate measures to enable those groups to alleviate poverty and to develop sustainability;

(c) Contain a long-term strategy aimed at establishing the best possible conditions for sustainable local, regional and national development that would eliminate poverty and reduce the inequalities between various population groups. It should assist the most disadvantaged groups - in particular, women, children, and youth within those groups - refugees and people under occupation. The groups will include poor smallholders, pastoralists, artisans, fishing communities, landless people, indigenous communities, migrants and the urban informal sector.

6. The focus here is on specific cross-cutting measures - in particular, in the areas of basic education, primary/maternal health care, and the advancement of women. The measures should be supplemented, inter alia, by the

establishment of adequate framework conditions, structural adjustment, and the application of social measures required for their implementation.

(a) Empowering communities

7. Sustainable development must be achieved at every level of society. Peoples' organizations, women's groups and non-governmental organizations are important sources of innovation and action at the local level and have a strong interest and proven ability to promote sustainable livelihoods. Governments, in cooperation with appropriate international and non-governmental organizations should support a community-driven approach to sustainability, which would include, inter alia:

(a) Empowering women through full participation in decision-making;

(b) Respecting the cultural integrity and the rights of indigenous people[s];

(c) Promoting or establishing grass-roots mechanisms to allow for the sharing of experience and knowledge between communities;

(d) Giving communities a large measure of participation in the sustainable management and protection of the local natural resources in order to enhance their productive capacity;

(e) Establishing a network of community-based learning centres for capacity-building and sustainable development.

(b) Management-related activities

8. Governments, with the assistance of and in cooperation with appropriate international, non-governmental, and local community organizations, should establish measures which will directly or indirectly:

(a) Generate remunerative employment and productive occupational opportunities compatible with country-specific factor endowments, on a scale sufficient to take care of prospective increases in the labour force and to cover backlogs;

(b) With international support, where necessary, develop adequate infrastructure, marketing systems, technology systems, credit systems etc. and human resources to support the above actions and to achieve a widening of options for resource-poor people. High priority should be given to basic education and professional training;

(c) Provide substantial increases in economically efficient resource productivity and measures to ensure that the local population benefits in adequate measure from resource use;

(d) Empower community organizations and people to enable them to achieve sustainable livelihoods;

(e) Set up an effective primary health care and maternal health care system accessible to all;

(f) Consider strengthening/developing legal frameworks for land management, access to land resources and land ownership - in particular, for women - and for the protection of tenants;

(g) Rehabilitate degraded resources, to the extent practicable, and introduce policy measures to promote sustainable use of resources for basic human needs;

(h) Establish new community-based mechanisms and strengthen existing mechanisms to enable communities to gain sustained access to resources needed by the poor to overcome their poverty;

(i) Implement mechanisms for popular participation - particularly by poor people, especially women - in local community groups, to promote sustainable development;

(j) Implement, as a matter of urgency, in accordance with country-specific conditions, measures to ensure that women and men have the right to decide freely and responsibly on the number and spacing of their children, to have access to the appropriate information, education and means to enable them to exercise this right in keeping with their freedom, dignity and personally held values. Governments should take active steps to implement programmes to establish and strengthen preventive and curative health facilities, which include women-centred, women-managed, safe and effective reproductive health care and affordable, accessible, responsible planning of family size and services, as appropriate, in keeping with freedom, dignity and personally held values. Programmes should focus on providing comprehensive health care, including pre-natal care, education and information on health and responsible parenthood, and should provide all women with the opportunity to breast-feed during the first four months (post-partum). Programmes should fully support women's productive and reproductive roles and well-being, with special attention to the need for providing equal and improved health care for all children and the need to reduce the risk of maternal and child mortality and sickness;

(k) Adopt integrated policies aiming at sustainability in the management of urban centres;

(l) Undertake activities aimed at the promotion of food security and, where appropriate, food self-sufficiency within the context of sustainable agriculture;

(m) Support research on and integration of traditional methods of production which have been shown to be environmentally sustainable;

(n) Actively seek to recognize and integrate informal-sector activities into the economy, by removing regulations and hindrances that discriminate against activities in those sectors;

(o) Consider making available lines of credit and other facilities for the informal sector and improved access to land for the landless poor so that they can acquire the means of production and reliable access to natural resources. In many instances special considerations for women are required. Strict feasibility appraisals are needed for borrowers to avoid debt crises;

(p) Provide the poor with access to fresh water and sanitation;

(q) Provide the poor with access to primary education.

(c) Data, information and evaluation

9. Governments should improve the collection of information on target groups and target areas in order to facilitate the design of focused programmes and activities, consistent with the target-group needs and aspirations. Evaluation of such programmes should be gender-specific, since women are a particularly disadvantaged group.

(d) International and regional cooperation and coordination

10. The United Nations system, through its relevant organs, organizations and bodies, in cooperation with Member States and with appropriate international and non-governmental organizations, should make poverty alleviation a major priority and should:

(a) Assist Governments, when requested, in the formulation and implementation of national action programmes on poverty alleviation and sustainable development. Action-oriented activities of relevance to the above objectives, such as poverty eradication, projects and programmes supplemented where relevant by food aid, and support and special emphasis to employment and income generation, should be given particular attention in this regard;

(b) Promote technical cooperation among developing countries for poverty eradication activities;

(c) Strengthen existing structures in the United Nations system for coordination of action relating to poverty eradication, including inter alia the establishment of a focal point for information exchange and the formulation and implementation of replicable pilot projects to combat poverty;

(d) Give high priority in the follow-up of the implementation of Agenda 21 to review of the progress made in eradicating poverty;

(e) Examine the international economic framework including resource flows and structural adjustment programmes to ensure that social and environmental concerns are addressed. In this connection, conduct a review of

the policies of international organizations, bodies and agencies, including financial institutions to ensure the continued provision of basic services to the poor and needy;

(f) Promote international cooperation to address the root causes of poverty. The development process will not gather momentum if developing countries are weighted down by external indebtedness, if development finance is inadequate, if barriers restrict access to markets and if commodity prices and the terms of trade in developing countries remain depressed.

Means of implementation

[(a) Financing and cost evaluation]

[11. Direct costing of the array of activities envisaged above is not possible, since specific activities would be designed to respond to the specific conditions prevailing in each case] country. However, indirect costing points to an estimate in the very rough order of magnitude of US$ 30 billion, of which approximately $15 billion would be provided through external assistance if this effort is to be shared equally by recipients and donors.]

[12. The formulation and implementation of the global action programme mentioned in paragraph 5 above would require the strengthening of the international organizations concerned. Average annual costs over the period would be in the order of $50 million.]

[13. In many instances, these costs pertain to the implementation of activities included in various chapters of Agenda 21, so that funding for these activities would contribute to achieving both sectoral objectives and poverty alleviation.]

(b) Capacity-building

14. National capacity-building for implementation of the above activities is crucial and should be given high priority. It is particularly important to focus capacity-building at the local community level in order to support a community-driven approach to sustainability and to establish and strengthen mechanisms to allow sharing of experience and knowledge between community groups at a national and international level. Requirements for such activities are considerable and related to the various relevant sectors of Agenda 21, calling for requisite international, financial and technological support.

CHANGING CONSUMPTION PATTERNS

(Sect. I, chap. 3)

15. This chapter proposes two programmes:

(a) Focusing on unsustainable patterns of production and consumption;

(b) Developing national policies and strategies to encourage changes in unsustainable consumption patterns.

16. Since the issue is very broad, it is addressed in several parts of Agenda 21, notably those dealing with energy, transportation and wastes and in the chapters on economic instruments and transfer of technology. The present chapter should also be read in conjunction with the one below on demographic dynamics and sustainability.

PROGRAMME AREAS

A. Focusing on unsustainable patterns of production and consumption

Basis for action

[17. While poverty largely results in certain kinds of environmental stress, one of the most serious problems now facing the planet is that associated with historical patterns of unsustainable consumption and production, leading to environmental degradation, aggravation of poverty and imbalances in the development of countries.]

18. Measures to be undertaken at the international level for the protection and enhancement of the environment must take fully into account the current imbalances in the global patterns of consumption and production.

[19. Special attention should be paid to the demand for natural resources generated by unsustainable consumption and to efficient use of those resources consistent with the goal of minimizing depletion and reducing pollution. Although consumption patterns are very high in certain parts of the world, the basic consumer needs of a large section of humanity are not being met. This inequitable distribution of income and wealth results in excessive demands and unsustainable lifestyles among the richer segments, which place immense stress on the environment. The poorer, meanwhile, are unable to meet food, health care, shelter and educational needs. Changing consumption patterns will require a multipronged strategy focusing on demand, meeting the basic needs of the poor, and reducing wastage and the use of finite resources in the production process.]

20. Growing recognition of the importance of addressing consumption has also not yet been matched by understanding of its implications. Some economists

are questioning traditional concepts of economic growth and underlining the importance of pursuing economic objectives which take account of the full value of natural resource capital. More needs to be known about the role of consumption in relation to economic growth and population dynamics in order to formulate coherent international and national policies.

Objectives

21. Action is needed to meet the following broad objectives:

(a) Promotion of patterns of consumption and production that reduce environmental stress and will meet the basic needs of humanity;

(b) Development of better understanding of the role of consumption and how to bring about more sustainable consumption patterns.

Activities

(a) Management-related activities:

Adopt an international approach to achieving sustainable consumption patterns

[22. In principle, Governments should be guided by the following basic objectives in their efforts to address consumption in the context of environment and development:

(a) All countries should strive to promote sustainable consumption patterns;

(b) Developed countries should take the lead in achieving sustainable consumption patterns and lifestyles;

(c) Developing countries should seek to achieve sustainable consumption patterns in their development process, guaranteeing the provision of basic needs of the poor, without replicating those wasteful and inefficient consumption patterns of industrialized countries in their development processes. This requires [substantial] technological and other assistance from industrialized countries.

23. In the follow-up of the implementation of Agenda 21 the review of progress made in changing unsustainable consumption patterns should be given high priority.]

(b) Data and information:

(i) Undertake research on consumption

24. In order to support this broad strategy, Governments, and/or private research and policy institutes, with the assistance of regional and international economic and environmental organizations, should make a concerted effort to:

(a) Expand or promote databases on production and consumption and develop methodologies for analysing them;

(b) Assess the relationship between production and consumption, environment, technological adaptation and innovation, economic growth and development; and demographic factors;

(c) Examine the impact of ongoing changes in the structure of modern industrial economies away from materials intensive economic growth;

(d) Consider how economies can grow and prosper while reducing energy, material use and production of harmful materials;

(e) Identify balanced patterns of consumption world wide which the earth can support in the long term.

(ii) Develop new concepts of sustainable economic growth and prosperity

25. Consideration should also be given to the present concepts of economic growth, and the need for new concepts of wealth and prosperity, which allow higher standards of living through changed lifestyles and are less dependent on the Earth's finite resources and more in harmony with the Earth's carrying capacity. This should be reflected in the evolution of new systems of national accounts and other indicators of sustainable development.

(c) International cooperation and coordination:

26. While international review processes exist for examining economic, development and demographic factors, more attention needs to be paid to issues related to consumption and production patterns and sustainable lifestyles and environment.

27. In the follow-up of the implementation of Agenda 21, reviewing the role and impact of unsustainable production and consumption patterns and lifestyles and their relation to sustainable development should be given high priority.

[28. Financial costs:] [Implementation of this programme is unlikely to require significant new financial resources. A research programme and an international process, once established, would require support (probably in the range of about $1 million.)]

B. Developing national policies and strategies to encourage sustainable production and consumption patterns

Basis for action

29. Achieving the goals of environmental quality and sustainable development will require efficiency in production and changes in consumption patterns in order to emphasize optimization of resource use and minimization of waste. In many instances, this will require reorientation of existing production and consumption patterns which have developed in industrial societies, and which are in turn emulated in much of the world.

30. Progress can be made by strengthening positive trends and directions which are emerging, as part of a process aimed at achieving significant changes in consumption patterns of industries, Governments, households and individuals.

Objectives

31. In the years ahead Governments, working with appropriate organizations, should strive to meet the following broad objectives:

(a) Promote efficiency in production processes and reduce wasteful consumption in the process of economic growth, taking into account the development needs of developing countries;

(b) Develop a domestic policy framework which will encourage a shift to more sustainable patterns of production and consumption;

(c) Reinforce both values which encourage sustainable production and consumption patterns, and policies which encourage the transfer of environmentally sound technologies to developing countries.

Activities

(a) Encourage greater efficiency in the use of energy and resources

32. [Reducing the amount] [More efficient use] of energy and materials used in the production of goods and services can contribute both to the alleviation of environmental stress, and to greater economic and industrial productivity and competitiveness. Governments, in cooperation with industry, should therefore intensify efforts to use energy and resources in an economically efficient and environmentally sound manner, in the following ways:

(a) Encourage the dissemination of existing environmentally sound technologies;

(b) Promote research and development in environmentally sound technologies;

(c) Assist developing countries to use these technologies efficiently, and to develop technologies suited to their particular circumstances;

(d) Encourage the environmentally sound use of new and renewable sources of energy;

(e) Encourage the environmentally sound and sustainable use of renewable natural resources.

(b) Minimize the generation of wastes

33. At the same time, society needs to develop effective ways of dealing with the problem of disposing of mounting levels of waste products and materials. Governments, together with industry, households and the public, should make a concerted effort to reduce the generation of wastes and waste products in the following ways:

(a) Encourage recycling in industrial processes and at the consumed level;

(b) Reduce wasteful packaging of products;

(c) Encourage the introduction of more environmentally sound products.

(c) Assist individuals and households to make environmentally sound purchasing decisions

34. The recent emergence in many countries of a more environmentally conscious consumer public, combined with increased interest on the part of some industries in providing environmentally sound consumer products, is a significant development which should be encouraged. Governments and international organizations, together with the private sector, should develop criteria and methodologies for the assessment of environmental impacts and resource requirements throughout the full life cycle of products and processes. Results of those assessments should be transformed into clear indicators in order to inform consumers and decision makers.

35. Governments, in cooperation with industry and other relevant groups, should encourage expansion of environmental labelling and other environmentally related product information programmes designed to assist consumers to make informed choices.

36. They should also encourage other ways of assisting individuals and households to make environmentally informed choices, in the following ways:

(a) Provide information on the consequences of consumption choices and behaviour, so as to encourage demand for environmentally sound products and use of products;

(b) Make consumers aware of the health and environmental impact of products, through means such as consumer legislation and environmental labelling;

(c) Encourage specific consumer-oriented programmes such as recycling and deposit/refund systems.

(d) Exercise leadership through government purchasing

37. Governments themselves also play a role in consumption, particularly in countries where the public sector plays a large role in the economy and can have a considerable influence on both corporate decisions and public perceptions. They should therefore review the purchasing policies of their agencies and departments so that they may improve, where possible, the environmental content of government procurement policies, without prejudice to international trade principles.

(e) Move towards environmentally sound pricing

38. Without the stimulus of prices and market signals which make clear to producers and consumers the environmental costs of the consumption of energy, materials, and natural resources and the generation of wastes, significant changes in consumption and production patterns seem unlikely to occur in the near future.

39. Some progress has begun in the use of appropriate economic instruments to influence consumer behaviour. These instruments include environmental charges and taxes, deposit/refund systems and other price-related economic instruments. This process should be encouraged in the light of country-specific conditions.

(f) Reinforcing values which support sustainable consumption

40. Governments and private-sector organizations should promote more positive attitudes towards sustainable consumption through education, public awareness programmes and other means such as positive advertising of products and services that utilize environmentally sound technologies or encourage sustainable production and consumption patterns. In the review of the implementation of Agenda 21, an assessment of the progress achieved in developing these national policies and strategies should be given due consideration.

Means of implementation

41. This programme is concerned primarily with changes in unsustainable patterns of consumption and production and values that encourage sustainable consumption patterns and lifestyles. It requires the combined efforts of Governments, consumers and producers. Particular attention should be paid to the significant role which women and households play as consumers and the potential impacts of their combined purchasing power on the economy.

DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

(Sect. I, chap. 4)

42. This chapter presents three programme areas:

(a) Developing and disseminating knowledge concerning the links between demographic trends and factors and sustainable development;

(b) Formulating integrated national policies for population, environment and development;

(c) Implementing integrated population, environment and development programmes at the local level.

PROGRAMME AREAS

A. Developing and disseminating knowledge concerning the links between demographic trends and factors and sustainable development

Basis for action

43. Demographic trends and factors and sustainable development have a synergistic relationship.

44. The growth of world population and production combined with unsustainable consumption patterns places increasingly severe stress on the life-supporting capacities of our planet. These interactive processes affect the use of land, water, air, energy and other resources. Unless well-managed, rapidly growing cities face major environmental problems. The increase in both the number and size of cities calls for greater attention to issues of local government and municipal management. Human dimensions are key elements to consider in this intricate set of relationships and they should be adequately taken into consideration in comprehensive policies for sustainable development. Such policies should address the linkages of demographic trends and factors, resource use, [appropriate technology dissemination,] and development. Population policy should also recognize the role played by human beings in environmental and development concerns. There is need to increase awareness of this issue among decision makers at all levels and to provide better information on which to base national and international policies and framework against which to interpret this information.

45. There is a need to develop strategies to mitigate both the adverse impact on the environment of human activities as well as the adverse impact of environmental change on human populations. The world's population is expected to reach over 8 billion by the year 2020. Sixty percent of the world's population already live in coastal areas, while 65 per cent of cities with populations above 2.5 million are located along the world coasts and several of them are already at or below the present sea level.

Objectives

46. The following objectives should be achieved as soon as practicable:

(a) Incorporate demographic trends and factors in the global analysis of environment and development issues;

(b) Develop a better understanding of the relationships among demographic dynamics, technology, cultural behaviour, natural resources, and life support systems;

(c) Assess human vulnerability in ecologically sensitive areas and centres of population to determine the priorities for action at all levels, taking full account of community defined needs.

Activities

Research on interaction between demographic trends and factors, and sustainable development

47. Relevant international, regional and national institutions should consider undertaking the following activities:

(a) Identify the interactions between demographic processes, natural resources and life support systems, bearing in mind regional and subregional variations deriving from, inter alia, different levels of development;

(b) Integrate demographic trends and factors into the ongoing study of environmental change, using the expertise of international, regional and national research networks, and of local communities to first study the human dimensions of environmental change and, second, to identify vulnerable areas;

(c) Identify priority areas for action and develop strategies and programmes to mitigate the adverse impact of environmental change on human populations, and vice versa.

Means of implementation

(a) Financing and cost evaluation

48. [Research and dissemination of results will require US$ 10 million annually from international sources.] It should be adequately financed taking into account the role of existing agencies in this field .

(b) Strengthen research programmes that integrate population, environment and development

49. In order to integrate demographic analysis as part of a broader social sciences perspective of environment and development, interdisciplinary research should be increased. International institutions and networks of

experts should enhance their scientific capacity taking full account of community experience and knowledge, and disseminate the experience gained in multidisciplinary approaches and in linking theory to action.

50. Better modelling capabilities should be developed, identifying the range of possible outcomes of current human activities, especially the interrelated impact of demographic trends and factors, per capita resource use and wealth distribution, as well as major migration flows which may be expected with increasing climatic events and cumulative environmental change that may destroy people's local livelihoods.

(c) Develop information and public awareness

51. Socio-demographic information should be developed in a suitable format for interfacing with physical, biological and socio-economic data. Compatible spatial and temporal scales, cross-country and time-series information, as well as global behavioral indicators should be developed, learning from local communities' perceptions and attitudes.

52. Awareness should be increased at all levels about the need to optimize the sustainable use of resources through efficient resource management taking into account the development needs of the populations of developing countries.

53. Awareness should be increased of the fundamental linkages between improving the status of women and demographic dynamics, particularly through women's access to education, primary and reproductive health care programmes, economic independence and the access to effective, equitable participation in all levels of decision-making.

54. Results of research should be disseminated through technical reports, scientific journals, the media, workshops, forums or other means concerned with sustainable development issues so that it can be used by decision makers at all levels and increase public awareness.

(d) Develop and/or enhance institutional capacity and collaboration

55. Collaboration and exchange of information should be increased between research institutions and international, regional and national agencies and all other sectors (including the private sector, local communities, non-governmental organizations and scientific institutions) from both the industrialized and developing countries, as appropriate.

56. Efforts should be intensified to enhance the capacities of national and local governments, private sector and non-governmental organizations in developing countries to meet the growing needs for improved management of rapidly growing urban areas.

B. Formulating integrated national policies for population and environment and development

Basis for action

57. Existing plans for sustainable development have generally recognized demographic trends and factors as critical elements which influence consumption patterns, production, lifestyles and long-term sustainability. But in future, more attention will have to be given to these issues in general policy formulation and the design of development plans. To do this, all countries will have to improve their own capacities to assess the environment and development implications of their demographic trends and factors. As well, they will need to formulate and implement policies and action programmes where appropriate. Policies should be designed to address the consequences of population growth built into population momentum, while, at the same time, incorporating measures to bring about demographic transition. They should combine environmental concerns and population issues within a holistic view of development where the primary goals include: alleviation of poverty; secure livelihoods; good health; quality of life; improvement of the status and income of women and their access to schooling and professional training, fulfilment of their personal aspirations; and empowerment of individuals and communities. Recognizing that large increases in the size and number of cities will occur in developing countries under any likely population scenario, greater attention should be given to preparing for the needs of improved municipal management and local government.

Objective

58. Full integration of population concerns into national planning, policy and decision-making process should continue. Population policies and programmes should be considered, with full recognition of women's rights.

Activities

59. Governments and other relevant actors could, inter alia, undertake the following activities, with appropriate assistance of aid agencies, and report on their status of implementation to the 1994 United Nations Conference on Population and Development, especially to its Committee on Population and Environment.

(a) Assess the implications of national demographic trends and factors

60. The relationships between demographic trends and factors, and environmental change, and between environmental degradation and the components of demographic change should be analysed.

61. Research should be conducted on how environmental factors interact with socio-economic ones as a cause of migration.

62. Vulnerable population groups should be identified (such as rural landless workers, ethnic minorities, refugees, migrants, displaced people, women heads of household) whose changes in demographic structure may have specific impacts on sustainable development.

63. An assessment should be made of the implications of the age structure of the population on resource demand and dependency burdens, ranging from educational expenses for the young, to health care and support for the elderly, and household income generation.

64. An assessment should also be made of national population carrying capacity in the context of satisfaction of human needs and sustainable development, and give special attention to critical resources, such as water and land, and environmental factors, such as ecosystem health and biodiversity.

65. The impact of national demographic trends and factors on the traditional livelihoods of indigenous groups and local communities, including changes in traditional land use because of internal population pressures, should be studied.

(b) Build and strengthen a national information base

66. National databases on demographic trends and factors and environment should be built and/or strengthened, disaggregating data by ecological region (ecosystem approach) and population/environment profiles established by region.

67. Methodologies and instruments should be developed to identify areas where sustainability is, or may be, threatened by the environmental effects of demographic trends and factors, incorporating both current and projected demographic data linked to natural environmental processes.

68. Case studies should be developed of local level responses by different groups to demographic dynamics particularly in areas subject to environmental stress and deteriorating urban centres.

69. Population data should be disaggregated by, inter alia, sex and age in order to take into account the implications of the gender division of labour for the use and management of natural resources.

(c) Incorporate demographic features into policy and plans

70. In formulating human settlements policies, account should be taken of the resource needs, waste production and ecosystem health.

71. The direct and induced effects of demographic changes in environment and development programmes should, where appropriate, be integrated, and the impact on demographic features assessed.

72. National population policy goals and programmes consistent with national environment and development plans for sustainability, and in keeping with individuals' freedom, dignity and personally held values, should be set and implemented.

73. Appropriate socio-economic policies for the young and the elderly, both in terms of family and state support systems, should be developed.

74. Policies and programmes should be developed for handling the various types of migrations that result from, or induce environmental disruptions, with special attention to women and vulnerable groups.

75. Demographic concerns, including concerns for environmental migrants and displaced people, should be incorporated in the programmes for sustainable development of relevant international and regional institutions.

76. National reviews should be conducted and the integration of population policies in national development and environment strategies should be monitored nationally.

Means of implementation

(a) Financing and cost evaluation

77. [The implementation of these activities by Governments will require at least $90 million annually from international sources.]

(b) Raise awareness of demographic and sustainable development interactions

78. Understanding should be increased in all sections of society of the interactions between demographic trends and factors, and sustainable development. Stress should be put on local and national action. Demographic and sustainable development education should be coordinated and integrated both in the formal and non-formal education sectors. Particular attention should be given to population literacy programmes, notably for women. Special emphasis should be placed on the linkage between these programmes, primary environmental care and the provision of primary health care and services.

(c) Strengthen institutions

79. The capacity of national, regional and local structures to deal with issues relating to demographic trends and factors, and sustainable development should be enhanced. This would involve strengthening the relevant bodies responsible for population issues to enable them to elaborate policies consistent with the national prospects for sustainable development. Cooperation among government, national research institutions, non-governmental organizations and local communities in assessing problems and evaluating policies should also be enhanced.

80. The capacity of the relevant United Nations organs, organizations and bodies, international and regional intergovernmental bodies, non-governmental organizations and local communities should, as appropriate, be enhanced to help countries develop sustainable development policies on request and, as appropriate, provide assistance to environmental migrants and displaced people.

81. Inter-agency support for national sustainable development policies and programmes should be improved through better coordination of population and environment activities.

(d) Promote human resources development

82. The international and regional scientific institutions should assist Governments upon request to include concerns for the population/environment interactions at the global, ecosystem and micro-levels in the training of demographers, population and environment specialists. Training should include research on linkages and ways to design integrated strategies.

C. Implementing integrated population, environment and development programmes at the local level

Basis for action

83. Population programmes are more effective when implemented together with appropriate cross-sectoral policies. In order to attain sustainability at the local level, a new framework is needed that integrates demographic trends and factors with other factors such as ecosystem health, technology, human settlements, and with socio-economic structures and access to resources. Population programmes should be consistent with socio-economic and environmental planning. Integrated sustainable development programmes should closely correlate action on demographic trends and factors with resources management activities and development goals meeting the needs of the people concerned.

Objective

84. Population programmes along with natural resources management and development programmes at the local level, that will ensure sustainable use of natural resources, improve the quality of life of the people and enhance environmental quality should be implemented.

Activities

85. Governments, local communities including community-based women's organizations and national non-governmental organizations could, inter alia, undertake the activities set out below with the assistance and cooperation of international organizations, as appropriate. Governments could share their experience in their implementation of Agenda 21 with the 1994 United Nations Conference on Population and Development, especially to its Committee on Population and Environment.

(a) Develop a framework for action

86. An effective consultative process should be established and implemented with concerned groups of society where the formulation and decision-making of all components of the programmes are based on a nationwide consultative process drawing on community meetings, regional workshops and national seminars, as appropriate. This process should ensure that views of women and men on needs, perspective and constraints are equally well reflected in the design of programmes, and that solutions are rooted in specific experience. The poor and underprivileged should be priority groups in this process.

87. Nationally determined policies for integrated and multifaceted programmes, with special attention to women, to the poorest people living in critical areas and to other vulnerable groups should be implemented, ensuring the involvement of groups with a special potential to act as agents for change and sustainable development. Special emphasis should be placed on those programmes that achieve multiple objectives, encouraging sustainable economic development, and mitigating adverse impacts of demographic trends and factors, and avoiding long-term environmental damage. Food security, access to secure tenure, basic shelter, and essential infrastructure, education, family welfare, women's reproductive health, family credit schemes, reforestation programmes, primary environmental care, women's employment should, as appropriate, be included among other factors.

88. An analytical framework should be developed to identify complementary elements of sustainable development policies as well as the national mechanisms to monitor and evaluate their effects on population dynamics.

89. Special attention should be given to the critical role of women in population/environment programmes and in achieving sustainable development. Projects should take advantage of opportunities to link social, economic and environmental gains for women and their families. Empowerment of women is essential and should be assured through education, training and policies to accord and improve women's right and access to assets, human and civil rights, labour-saving measures, job opportunities and participation in decision-making. Population/environment programmes must enable women to mobilize themselves to alleviate their burden and improve their capacity to participate in and benefit from socio-economic development. Specific measures should be undertaken to close the gap between female and male illiteracy rates.

(b) Support programmes which promote changes in demographic trends and factors towards sustainability

90. Consistent with national plans, objectives, strategies and priorities, reproductive health programmes and services, should, as appropriate, be developed and enhanced to reduce maternal and infant mortality from all causes and enable women and men to fulfil their personal aspirations in terms of family size, in a way in keeping with their freedom and dignity and personally held values.

91. Governments should implement, as a matter of urgency, in accordance with country-specific conditions, measures to ensure that women and men, without bias of gender, have the right to decide freely and responsibly on the number and spacing of their children, to have access to the information, education and means, as appropriate, to enable them to exercise this right in keeping with their freedom, dignity and personally held values.

92. Governments should take active steps to implement programmes to establish and strengthen preventive and curative health facilities, which include women-centred, women-managed, safe and effective reproductive health care and affordable, accessible, responsible planning of family size and services, as appropriate in keeping with freedom, dignity and personally held values. Programmes should focus on providing comprehensive health care, including pre-natal care, education and information on health and responsible parenthood and should provide the opportunity for all women to breast-feed during the first four months (post-partum). Programmes should fully support women's productive and reproductive roles and well-being, with special attention to the need for providing equal and improved health care for all children and the need to reduce the risk of maternal and child mortality and sickness.

93. Consistent with national priorities, culturally based information and education programmes that transmit reproductive health messages to men and women that are easily understood should be developed.

(c) Create appropriate institutional conditions

94. Constituencies and institutional conditions to facilitate the implementation of demographic activities should, as appropriate, be fostered. This requires support and commitment from political, indigenous, religious and traditional authorities, the private sector and the national scientific community. In developing these appropriate institutional conditions, countries should closely involve established national machinery for women.

95. Population assistance should be coordinated with bilateral and multilateral donors to ensure that population needs and requirements of all developing countries are addressed, fully respecting the overall coordinating responsibility, and the choice and strategies of the recipient countries.

96. Coordination should be improved at local and international level. Working practices should be enhanced in order to make optimum use of resources, draw on collective experience and improve the implementation of programmes. UNFPA and other relevant agencies should strengthen the coordination of international cooperation activities with recipient and donor countries in order to assure that adequate funding is available to respond to growing needs.

97. Proposals should be developed for local, national and international population/environment programmes in line with specific needs for achieving sustainability. Where appropriate, institutional changes must be implemented so that old-age security does not entirely depend on input from family members.

Means of implementation

(a) Financial and cost evaluation

98. [The total resources, national as well as external, currently devoted to population activities in developing countries is estimated to be $4.5 billion a year. Of that amount, nearly 80 per cent is provided by developing countries themselves. To carry out intensified programmes, and implement integrated population/environment actions in line with the above activities, an average of $7 billion is needed annually in the 1993-2000 period, of which about half is required from international sources. The goal is to mobilize resources amounting to $9 billion a year by the turn of the century. About $6 million annually is needed to strengthen international institutions.]

(b) Research

99. Research should be undertaken with a view to developing specific action programmes; it will be necessary to establish priorities between proposed areas of research.

100. Socio-demographic research should be conducted on how populations respond to a changing environment.

101. Understanding of socio-cultural and political factors that can positively influence acceptance of appropriate population policy instruments should be improved.

102. Surveys of changes in needs for appropriate services relating to responsible planning of family size, reflecting variations among different socio-economic groups, and in different geographical regions should be undertaken.

(c) Human resources development and capacity-building

103. The areas of human resources development and capacity-building, with particular attention to education and training of women, are areas of critical importance and are a very high priority in the implementation of population programmes.

104. Workshops to help programme and projects managers to link population programmes to other development and environmental goals should be conducted.

105. Educational materials, including guides/workbooks for planners and decision makers and other actors of population/environment/development programmes, should be developed.

106. Cooperation should be developed between Governments, scientific institutions and non-governmental organizations within the region, and similar institutions outside the region. Cooperation with local organizations should be fostered in order to raise awareness, engage in demonstration projects and report on the experience gained.

107. Recommendations contained in this section should in no way prejudice discussions in the International Conference on Population and Development (1994), which would be the appropriate forum to deal with population and development issues.

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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: CROSS-SECTORAL ISSUES

[Cooperation for the] transfer of [, adaptation and diffusion] of environmentally sound technology

(Section IV, Chapter 2 of Agenda 21)

Text submitted by the Chairman on the basis of negotiations held on document A/CONF.151/PC/100/Add.9

INTRODUCTION

1. Environmentally [safe and] sound technologies protect the environment, are less polluting, less energy and resource intensive, use renewable resources in a more sustainable manner, recycle more of their wastes and products, and handle residual wastes in a more acceptable manner than the technologies for which they were substitutes.

2. Environmentally sound technologies in the context of pollution are "process and product technologies" that generate low or no waste, for the prevention of pollution. They also cover "end of the pipe" technologies for treatment of pollution after it has been generated.

3. Environmentally sound technologies are not just individual technologies, but total systems which include know-how, procedures, goods and services, and equipment as well as organizational and managerial procedures. This implies that when discussing transfer of technologies, the human resource development and local capacity building aspects of technology choices, including gender-relevant aspects, should also be addressed. Environmentally sound technologies should be compatible with nationally determined socio-economic, cultural, and environmental priorities.

4. There is a need for [favourable] access to and transfer of environmentally sound technologies, in particular to developing countries, through supportive measures that promote technology cooperation and that should enable transfer of necessary technological know-how as well as building up of economic, technical, and managerial capabilities for the efficient use and further development of transferred technology. Technology cooperation involves joint efforts by enterprises and Governments, both suppliers of technology and its recipients. Therefore, such cooperation entails an iterative process involving government, the private sector, and research and development facilities to ensure the best possible results from transfer of technology. Successful long-term partnerships in technology cooperation necessarily require continuing systematic training and capacity building at all levels over an extended period of time.

5. The activities proposed in this chapter aim at improving conditions and processes on information, access to and transfer of technology (including the state-of-the-art technology and related know-how), in particular to developing countries, as well as on capacity building and cooperative arrangements and partnerships in the field of technology, in order to promote sustainable development. New and efficient technologies will be essential to sustaining the world's economy, protecting the environment, and alleviating poverty and human suffering. Inherent in these activities is the need to address the improvement of technology currently used and its replacement, when appropriate, with more accessible and more environmentally sound technology.

Basis for action

6. The availability of scientific and technological information and access and transfer of environmentally sound technology are essential requirements for sustainable development. Providing adequate information on the environmental aspects of present technologies consists of two interrelated components: upgrading information on present and state-of-the-art technologies, including their environmental risks, and improving access to environmentally sound technologies.

7. The primary goal of improved access to technology information is to enable informed choices, leading to access and transfer of such technologies and the strengthening of countries' own technological capabilities.

8. A large body of useful technological knowledge lies in the public domain. There is a need for the access of developing countries to such

technologies as are not covered by patents or lie in the public domain. Developing countries would also need to have access to the know-how and expertise required for the effective utilization of the aforesaid technologies.

[[While the international community supports the international patent system, one possible constraint to availability of environmentally sound technologies in developing countries could be patent protection systems.] [One possible though not insoluble constraint to availability of environmentally sound technologies in developing countries is patent protection restriction.] [Consideration must be given to the role of patent protection and other intellectual property rights in the transfer, adaptation, and diffusion of technology.]

[Moreover, the access to environmentally sound and related technologies to developing countries should not be restricted on incidental and extraneous considerations.]] or

[There is a need to [immediately] explore the concept of assured access for developing countries to environmentally sound technologies in its relation to proprietary rights with a view to developing a view to effective responses to the need of developing countries in this area.]

9. Proprietary technology is available through commercial channels, and international business is an important vehicle for technology transfer. Tapping this pool of knowledge and recombining it with local innovations to generate alternative technologies should be pursued. At the same time, access to the environmentally sound technologies, including state-of-the-art technologies, in particular by developing countries, should be [assured on favourable terms, including on preferential and concessional terms] [ensured] [facilitated] [improved], while providing fair incentives to innovators that promote research and development of new environmentally sound technologies.

10. Recipient countries require technology and strengthened support to help further develop their scientific, technological, professional and related capacities, taking into account existing technologies and capacities. This support would enable in particular developing countries to make more rational technology choices. These countries could then better assess environmentally sound technologies prior to their transfer and properly apply and manage them, as well as improve upon already present technologies and adapt them to suit their specific development needs and priorities.

11. A critical mass of research and development capacity is crucial to the effective dissemination and use of environmentally sound technologies and their generation locally. Education and training programmes should reflect the needs of specific goal oriented research activities and should work to produce specialists literate in environmentally sound technology and with an interdisciplinary outlook. Achieving this critical mass involves building the capabilities of craft persons, technicians and middle-level managers, scientists, engineers and educators, as well as developing their corresponding social or managerial support systems. Transferring environmentally sound

technologies also involves innovatively adapting and incorporating them into the local or national culture.

Objectives

12. To help to ensure the access in particular of developing countries to scientific and technological information, including information on state-of-the-art technologies.

13. To promote, facilitate and finance, as appropriate, the access to and the transfer of environmentally sound technology and corresponding know-how, in particular to developing countries, [on favourable terms, including on concessional and preferential terms] [with adequate and effective protection of intellectual property rights] or [taking into account adequate and effective protection of intellectual property rights] or [at the same time taking into account its relation to proprietary rights] or [with due regard to the protection of intellectual property rights] or [taking into account the need to protect intellectual property rights].

14. To facilitate the maintenance and promotion of environmentally sound indigenous technologies that may have been neglected or displaced, in particular in developing countries, paying particular attention to their priority needs and taking into account the complementary roles of men and women.

15. To support endogenous capacity building in particular in developing countries so they can assess, adopt, manage and apply environmentally sound technologies. This could be achieved through inter alia:

(a) Human resource development;

(b) Strengthening of institutional capacities for research and development and programme implementation;

(c) Integrated sector assessments of technology needs, in accordance with countries' plans, objectives and priorities as foreseen in the implementation of Agenda 21 at the national level.

16. To promote long-term technological partnerships between holders of environmentally sound technologies and potential users.

Activities

(a) Develop international information networks which link national, regional and international systems

17. Develop existing national, regional and international information systems, and network them through regional clearing-houses covering broad-based sectors of the economy such as agriculture, industry and energy. The network might, inter alia, include national and regional patent offices

that are equipped to produce reports on state-of-the-art technology. The clearing-house networks would disseminate information on available technologies, their sources, their environmental risks, and the broad terms under which they may be acquired. They would operate on an information-demand basis and focus on the information needs of the end-users. They would take into account the positive roles and contributions of international and regional organizations, business communities, trade associations, non-governmental organizations, national Governments, and newly established or strengthened national networks.

18. The international and regional clearing-houses would take the initiative, where necessary, in helping users to identify their needs and in disseminating information that meets those needs, including the use of existing news, public information, and communication systems. The disseminated information would highlight and detail concrete cases where environmentally sound technologies were successfully developed and implemented. In order to be effective, the clearing-houses need to provide not only information, but also referrals to other services, including sources of advice, training, technologies and technology assessment. The clearing-houses would thus facilitate the establishment of joint ventures and partnerships of various kinds.

19. An inventory of existing and international or regional clearing-houses or information exchange systems should be undertaken by the relevant United Nations bodies. The existing structure should be strengthened and improved when necessary. Additional information systems should be developed, if necessary, in order to fill identified gaps in this international network.

(b) Support and promote access to and transfer of technology

20. Governments, international organizations and the private sector should promote effective modalities for the access and transfer in particular to developing countries of environmentally sound technologies by activities including the following:

(a) Formulation of policies and programmes for the effective transfer of environmentally sound technologies that are publicly owned or in the public domain;

(b) Creation of [favourable] conditions to encourage the private as well as public sector to innovate, market and use environmentally sound technologies;

(c) Examination by Governments and, where appropriate, by relevant organizations of existing policies, including subsidies and tax policies, and regulations to determine whether they encourage or impede the access to, transfer of and introduction of environmentally sound technologies;

(d) Addressing, in a framework which fully integrates environment and development, barriers to the transfer of privately owned environmentally sound technologies and adoption of appropriate general measures to reduce such

barriers while creating specific incentives, fiscal or otherwise, for the transfer of such technologies;

(e) In the case of privately-owned technologies the following measures could be adopted:

(i) Creation and enhancement by developed countries, as well as other countries which might be in a position to do so, of appropriate incentives, fiscal or otherwise, to stimulate the transfer of environmentally sound technology by companies, in particular to developing countries, as integral to sustainable development;

(ii) Purchase of patents and licenses on commercial terms for their transfer to developing countries [and countries with economies in transition] on non-commercial terms [within the framework of development cooperation, respecting intellectual property rights];

(iii) [Compulsory acquisition with the provision of equitable and adequate compensation, in accordance with international conventions adhered to by States;]

(iv) [Provision of financial resources to acquire environmentally sound technologies in order to enable in particular developing countries to implement measures to promote sustainable development that would entail a special or abnormal burden to them;]

(f) [Develop [incorporate] mechanisms for the transfer of environmentally sound technologies to developing countries in negotiating an International Code of Conduct on Transfer of Technology;]

(g) [Enhance the access to and transfer of patent protected environmentally sound technologies, in particular to developing countries, on non-commerical terms.]

(c) <u>Improve capacity to develop and manage environmentally sound technologies</u>

21. Establish a framework[s at the regional or [and] international levels] for the development, transfer and application of environmentally sound technologies and corresponding technical know-how with a special focus on developing countries' needs, primarily by adding such functions to already existing bodies. Such a framework [frameworks] would facilitate initiatives from both developing and developed countries to stimulate the research, development and transfer of environmentally sound technologies, often through partnerships within and among countries and between the scientific and technological community, industry and Governments.

22. National capacities to assess, develop, manage and apply new technologies should be developed. This will require strengthening existing institutions, training of personnel at all levels, and education of the end-user of the technology.

(d) Establish a collaborative network of research centres

23. Establish a collaborative network of national, regional and international research centres on environmentally sound technology to enhance the access to and development, management and transfer of environmentally sound technologies, including transfer and cooperation among developing countries and between developed and developing countries, primarily based on existing regional research, development and demonstration centres which are linked with the national institutions, in close cooperation with the private sector.

(e) Support programmes of cooperation and assistance

24. Support programmes of cooperation and assistance, including those provided by United Nations agencies, international organizations, and other appropriate public and private organizations, in particular to developing countries, in the areas of research and development, technological and human resources capacity building in the fields of training, maintenance, national technology needs assessments, environmental impact assessments, and sustainable development planning.

25. Support national, regional, multilateral and bilateral programmes of scientific research, dissemination of information and technology development among developing countries, including through the involvement of both public and private enterprises and research facilities, as well as funding for technical cooperation among developing countries programmes in this area. This should include developing links among these facilities to maximize their efficiency in understanding, disseminating and implementing technologies for sustainable development.

26. The development of global and regional programmes should include identification and evaluation of regional and national need-based priorities. Plans and studies supporting these programmes should provide the basis for potential financing by multilateral banks, bilateral organizations, private sector interests and non-governmental organizations.

27. Sponsor visits and facilitate, on a voluntary basis, the return of qualified experts from developing countries in the field of environmentally [safe and] sound technologies who are currently working in developed country institutions.

(f) Technology assessment in support of the management of environmentally sound technology

28. The international community, in particular United Nations agencies, international organizations, and other appropriate and private organizations should help exchange experiences and develop capacity for technology needs assessment, in particular in developing countries, to enable them to make choices based on environmentally [safe and] sound technologies.

29. Build up technology assessment capacity for the management of environmentally sound technology, including environmental impact and risk assessment, with due regard to appropriate safeguards on the transfer of technologies subject to [restriction or] prohibition on environmental or health grounds.

30. Strengthen the international network of regional or national environmentally sound technology assessment centres, coupled with clearing-houses, to tap the technology assessment sources mentioned above for the benefit of all nations. These centres could, in principle, provide advice and training for specific national situations and promote the building up of national capacity in environmentally sound technology assessment. The possibility of assigning this activity to already existing regional organizations should be fully explored before creating entirely new institutions, and funding of this activity through public-private partnerships should also be explored, as appropriate.

(g) Collaborative arrangements and partnerships

31. Promote long-term collaborative arrangements between enterprises of developed and developing countries for the development of environmentally sound technologies. Multinational companies, as repositories of scarce technical skills needed for the protection and enhancement of the environment, have a special role and interest in promoting cooperation in technology transfer, as they are important channels for such transfer, and for building a trained human resource pool and infrastructure.

32. Promote joint ventures between suppliers and recipients of technologies, taking into account developing countries' policy priorities and objectives. Together with direct foreign investment, these ventures could constitute important channels of transferring environmentally sound technologies. Through such joint ventures and direct investment, sound environmental management practices could be transferred and maintained.

Means of implementation

[33. The financial resources necessary to implement the international networks would be derived from a selection of existing funds and those to be additionally established. The running costs for international information networks would amount to approximately US$ 150-200 million to be borne by the international community per year.

34. Given the nature of purchasing of patents and licenses as described in paragraph 20 (e) (ii) and provision of financial resources to acquire environmentally sound technologies as described in paragraph 20 (e) (iv), and the lack of actual experience, there are no solid grounds for estimating the costs of such activities.

35. A very rough estimate of costs to be borne by the international community for the activities in paragraphs 21 to 27 would be US$ 250-300 million per year.

36. A very rough estimate of costs for the activities in paragraphs 28 to 30 would be US$ 50-100 million per year.

37. The activities in promoting collaborative arrangements and partnerships in paragraphs 31 to 32 do not involve international financing on a concessional basis.]